

Preparation of *Tephrosia* extract as a natural insecticide

Recognize the problem

Chemical pesticides are expensive and not accessible to the majority of small holder farmers. Moreover, there are issues arising from their toxicity and environmental impacts. In addition, several pests have been reported to have developed resistance to such chemicals. There are also many restrictions on agro chemical use but few users observe the recommendations before, during and after the application. There is therefore great hope in the use of natural remedies, especially botanicals like *Tephrosia*. *T. vogelii* (Fish-poison bean, English; Muluku, Luganda) which is one of the indigenous species used for the production of organic pesticide solutions for the control of aphids and a few other soft bodied pests of vegetables like brassica. The leaves contain rotenone (classified by WHO as a class II compound, moderately hazardous) as the active ingredient. Knowledge is needed amongst farmers on how this plant can be used in the control of vegetable pests.

Background

The required quantity of fresh *Tephrosia* leaves are harvested, weighed, pound or squeezed and mixed with water for easy application. Pounding, soaking and/or boiling the leaves in water helps to extract the active ingredients while filtering ensures easy application through spraying. Spraying two times a week ensures effective control of the pests because the active ingredient Rotenone breaks down in about 3 days. The quick breakdown is considered environmentally friendly. The extracts after sieving can be used as manure because *Tephrosia* is a leguminous plant with high levels of nitrogen in the leaves which is released when incorporated into the soil.

Management

- Harvest at least 1 kg of *Tephrosia* leaves.
- Pound the leaves in a mortar.
- Mix the pounded leaves in water at a concentration of 1 kg per 5 litres.
- Leave the pounded leaves to soak in water for two hours or boil for 30 minutes.
- Filter the mixture using a cloth or sieve and retain the solution.
- Use the solution (filtrate) to spray onto the crops directly using a sprayer.
- It is sprayed directly onto leaves at least 2 times a week to effectively control the pests.
- The residue can be used as a mulch or fertilizer if it is in reasonable quantities.

T. vogelii growing in a field.
(Photo by Sam in Zambia 2012)



T. vogelii flower and pods. (Photo by ICRAF)



The recommendations in this factsheet are relevant to: All Countries



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